APPENDIX V

50. Glossary

50.1 List of Acronyms

ADCCP	Advanced Data Communication Control Procedures
ADV	Advisory
ADWS	Automated Digital Weather Switch
AFB	Air Force Base
AFC4A	Air Force Command, Control, Communications and Computer Agency
AFGWC	Air Force Global Weather Central
AFR	Air Force Regulation
AFWA	Air Force Weather Agency
AFWIN	Air Force Weather Information Network
AGL	Above Ground Level
AIRAD	Airfield Advisory
AIREP	Aircraft Report
ALSTG	Altimeter Setting
ALT	Altimeter
ALT1	Alternative Indice #1
ALT2	Alternative Indice #2
ALT3	Alternative Indice #3
ALT4	Alternative Indice #4
ALT5	Alternative Indice #5
ALTN	Alternate
AMIS	Automated Meteorological Information System
AN	Alphanumeric
AOS	Automated Observation System
ARAC	Army Radar Approach Control
ARQ	Automatic Response to Query
ASCII	American Standard Code for Information Interchange
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
ATD	Alphanumeric Terminal Display
AWDS	Automated Weather Distribution System
AWN	Automated Weather Network
BI	Base Index
BIT	Built-In Test
bps	Bits per second
CCL	Convective Condensation Level
CCL_m	Convective Condensation Level (in meters)

CCL_mb	Convective Condensation Level (in mb)
C/DM	Communications/Data Management
cfp	Cold Frontal Passage
CIG	Ceiling
COMM	Communications
CONUS	Continental United States
CWT	Combat Weather Team
DA (SWAT)	Dry Adiabat
DATYP	Data Type
DDN	Defense Data Network
DEST	Destination
DMSP	Defense Meteorological Satellite Program
DOD	Department of Defense
DSN	Defense Switching Network
DTG	Date/Time Group
EAC	Echelon above Corps
EIF	External Customer Interface
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
FAA	Federal Aviation Administration
FBD	Formatted Binary Data (for surface or upper air observations)
FCF	Flight Control Facility
FIFO	First-In First-Out
FMH	Federal Meteorological Handbook
FNMOC	Fleet Numerical Meteorological Oceanographic Center
FO	Flight Operations
FRZG	Freezing
FTP	File Transfer Protocol
GCA	Ground Control Approach
GI	Grid Indicator
gm	Gram
GMT	Greenwich Mean Time
HF	High Frequency
HMI	Human-Machine Interface
HRLGG	High Resolution Locally Generated Grids
HWD	Horizontal Weather Depiction
IAW	In Accordance With
ICAO	International Civil Aviation Organization
ID	Identification
IDV	Initial Direction Vector
IL	Increment Length
IP	Internet Protocol
ISOLD	Isolated
kg	Kilogram

LAH	Long ASCII Header
LAN	Local Area Network
LAWC	Local Area Work Chart
LCL	Lifted Condensation Level or Local (FCF/ATC Functional Area usage)
LCL_m	Lifting Condensation Level (in meters)
LCL_mb	Lifting Condensation Level (in mb)
LED	Light Emitting Diode
LF	Line Feed
LFC	Level of Free Convection
LGG	Locally Generated Gridded Data
LGT	Light
LH	Latent Heat
LI	Lifted Index
MANOP	Manual of Operations
mb	Millibar
MB	Megabyte
Mct	Mean Corrective Time
MDT	Mean Down Time
METAR	Meteorological Terminal Aerodrome Report
METSAT	Meteorological Satellite
METWATCH	Meteorological Watch
MOD	Moderate
mps	Meters per Second
MR (SWAT)	Mixing Ratio
MSL	Mean Sea Level
N/A	Not Applicable
NEXRAD	Next Generation Weather Radar
NIC	Network Interface Card
NIPRNET	Non-Secure Internet Protocol Router Network
NMC	National Meteorological Center
NMRS	Numerous
NOTAM	Notice to Airmen
N-TFS	New Tactical Forecast System
NWP	Numerical Weather Prediction
NWS	National Weather Service
OTS	Off The Shelf
OWS	Operational Weather Squadron
PA	Pressure Altitude
PAR	Precision Approach Radar
PC	Personal Computer
PDF	Product Distribution Function
PEPT	Pseudo-Equivalent Potential Temperature
PI	Projection Indicator
PID	Product Identification

PIBAL	Pilot Balloon
PIREP	Pilot Report
PM	Preventive Maintenance
PMSV	Pilot to Meteorologist Service
PPC	Product Preparation Capability
PPP	Point-to-Point Protocol
PPT	Partial Potential Temperature
PRECIP	Precipitation
PTT	Postal, Telephone and Telegraph
PWW	Point Weather Warning
QC	Quality Control
RAOB	Rawinsonde Observation
RAPCON	Radar Approach Control
RAREP	Radar Report
RCR	Runway Condition Report
REJ	Reject Command Response
RFI	Radio Frequency Interference
RMSM	Removable Magnetic Storage Medium
RNR	Receive Not Ready
RR	Receive Ready
SA	Saturation Adiabat
SAT	Successive Approximation Technique
SCSI	Small Computer System Interface
SCOMP	Strategic Communications Program
SCT	Scattered
SFC	Surface
SI	Stability Index
SIGMET	Significant Meteorological Information
SMR	Saturation Mixing Ratio
SOW	Statement of Work
SP	Special
SREJ	Selective Reject
SVP	Saturated Vapor Pressure
SVR	Severe
TAF	Terminal Aerodrome Forecast
TCP	Transmission Control Protocol
TFU	Theater Forecast Unit
TMP	Temperature
TSTMS	Thunderstorms
TURB	Turbulence
T-VSAT	Tactical VSAT
UTC	Coordinated Universal Time
UGDF	Uniform Gridded Data Field
UI	Unnumbered Information

UN	Unbalanced, Normal
UPS	Uninterruptable Power Supply
USAF	United States Air Force
UTM	Universal Transverse Mercator
VCH	VSAT Communication Handler
VF	Voice Frequency
VP	Vapor Pressure
VSAT	Very Small Aperture Terminal
VSBY	Visibility
WA	Watch Advisory
WEA	Weather
WMO	World Meteorological Organization
WPMDS	Weather Products Management and Distribution System
WSS	Weather Subscription Service
WW	Weather Warning
XTRM	Extreme

Definitions

Adiabat (Dry)

A line of constant potential temperature on a thermodynamic diagram.

Adiabat (Saturation or Moist)

A line of constant wet bulb potential temperature on a thermodynamic diagram representing the rate of change of temperature with height on a thermodynamic diagram when the air is saturated.

Adiabatic Process

Thermodynamic transformation which occurs without exchange of heat between the system considered and its environment. In adiabatic processes, “adiabatic cooling” accompanies expansion, and “adiabatic warming” accompanies compression.

Advection (Horizontal)

Transport of some atmospheric property such as temperature, by the wind field.

Aerodrome

Airport; airfield.

Alphanumeric

A character set composed of letters, integers, punctuation marks, and special symbols.

Alphanumeric Data

Any textual or encoded data (ASCII character strings) designed to be displayed in a man-readable format. Most centrally produced alphanumeric data originate from an AWN switch (e.g., Tinker). A collection of these data constitute such products as bulletins, TAFs, messages, and formatted observations.

Analysis

The process of generating horizontal analysis products (surface and upper air) and vertical analysis products (Skew-T, Log-P and cross section products) from both observation and forecast data. For horizontal analysis products and cross section products, analysis includes all the processes supported by the composite product functions.

Asynchronous

Digital operations that occur without the use of a system clock. One circuit is activated by the output from a previous circuit (see Synchronous).

Atmospheric Systems

Major perturbations in the atmosphere such as low pressure centers, high pressure centers, fronts, hurricanes, squall lines, etc.

Barometric Tendency

Algebraic difference of station pressure between the current time of observation and a previous time representing a duration interval agreed on a regional basis (usually 3 hours).

Base Time

Time of observations used to generate a product.

Baud

Commonly referred to as bit rate, i.e., bits per second in serial data communication.

Byte

Eight information bits.

Change Fields

A presentation of differences in values of atmospheric parameters during a specified time interval, normally 3, 6, 12 or 24 hours.

Continuity

The positions of significant features (fronts, pressure centers, etc.) based on analyses at regular time intervals.

Continuity Workchart

A display of successive positions of significant weather features at regular time intervals.

Continuous Parameter

A parameter that is characterized by gradually identifiable differences in values along a horizontal path.

Contour

A line of equal parameter value with respect to space or time.

Convective Condensation Level

On a thermodynamic diagram, the point of intersection of a temperature profile (representing the vertical distribution of temperature in an atmospheric column) with the saturation mixing ratio corresponding to the average mixing ratio in the lowest 100- mb.

Coordinate

A point given a spatial address in the X-axis and Y-axis (display increments) relative to a predetermined origin and reference frame.

Cross Section

Graphic representation of a vertical surface in the atmosphere along a given distance or time path, and extending from the earth's surface to a given altitude.

Cross Totals

One of the stability indices which determine the potential for thunderstorm development. In mathematical terms, cross total is:

850 mb Dew Point Temperature - 500 mb Temperature

where both temperatures are in degrees Celsius or Kelvin.

Current Indicator

Time parameter for product generation based upon variable time periods, depending upon the product.

Cursor, Alphanumeric

A position indicator on a display device that indicates where the next data character appears.

Cursor, Graphic

A cursor is a movable mark that locates a position on the screen or in a menu. The mouse generally controls movement of this cursor.

Data Base

A typical database is a vast and continuously updated file of information, abstracts, or references on a particular subject or subjects. On-line data bases are designed so that by using subject headings, key words, key phrases, or authors, users can quickly and economically search for, sort, analyze, and print out data on their terminal.

Data Override

Option to delete, modify, or ignore a parameter value.

Default

The value assigned to a variable or action performed by a computer when either is left unspecified.

Default Values

Parameter values expected or assumed in a particular situation.

Density Altitude

The altitude in the standard atmosphere at which a given density is found.

Derived Parameter

Result of applying a mathematical operation on one or more fields of data.

Dewpoint Temperature

The temperature at which a given parcel of air must be cooled at constant pressure and constant water-vapor content to reach saturation. Often referred to simply as “dewpoint".

Dewpoint Depression

The difference (in degrees) between the air temperature and the dewpoint temperature.

Disk Storage

A computer memory device capable of storing information magnetically on a disk.

Display Data

The actual graphic terminal display as supported by refresh memory for a raster scan terminal.

Display Scrolling

This feature allows text to be moved up or down, for showing material that does not fit on the display screen. When the scrolling key is pressed, the entire displayed text moves up or down. The first line in the direction of motion disappears and a new line appears at the opposite edge of the screen. An alternate approach is to display the text in “pages". Then, when the page advance key is pressed, a new full screen of text succeeds the currently displayed text.

Divergence

A property of the wind field that measures the net outflow of the air in a horizontal plane (negative divergence is convergence).

D Values

The departure from the defined standard atmospheric value of height on constant pressure surface:

$$D = Z - Zs$$

where Zs is the height of the constant pressure surface above mean sea level in the standard atmosphere and Z is the actual measured height of the same pressure surface.

Equivalent Potential Temperature

The temperature that a sample of air would have if all its moisture were condensed out by a pseudo-adiabatic process (i.e., with the latent heat of condensation being used to heat the air sample), and the sample then brought dry-adiabatically back to 1000 Mb.

Execute

The computer process which interprets an instruction and then completes the requested action. Actions such as add, subtract, or compare.

Externally Generated Products

Products created external to the N-TFS at locations such as AFGWC, AWN switches, or theater forecast centers.

Externally Produced

Prepared at a location such as AFGWC or theater forecaster centers.

Extrapolation

Projection of the future location of a significant weather feature based on the assumption the feature will continue to move with the same velocity and acceleration (deceleration) over a specific time interval. The velocity and acceleration (deceleration) of the feature is usually computed from the current and past two analyzed positions of the feature.

Feature

A graphic picture segment.

Field

A representation of the spatial distribution of an atmospheric parameter over a specified region, e.g., pressure field, temperature field.

File Time

The date and time a product was generated. Also, the date and time (UTC) at which weather observations are made for subsequent transmission as a Formatted Binary Data product.

Fronts

The interface or transition zone between two contrasting air masses of different density. Temperature distribution is the most important regulator of atmospheric density, thus, a front almost invariably separates air masses of different temperatures.

Graphic Product

Any product originating from AFGWC consisting of uniform gridded data fields, vector graphic data, raster scan data or formatted binary data. This would also include any product built by AMIS which is in whole or part a recreation of the above type(s) of data (e.g., a Local Area Work Chart).

Grid

A system of uniformly spaced points on a map of the earth. A grid is in the form of an array of points with rows designated by an integer (J), columns designated by an integer (I), and spacing expressed in nautical miles, kilometers, or some other appropriate linear distance, at a reference latitude.

Grid Box

A rectangular element of a gridded or UGDF field. The four corners of a grid box are grid points.

Gridded Data

Regularly spaced data which as been derived from irregularly spaced observations and data.

Gridded Data Fields

A set of parameter values at uniformly spaced grid points.

Grid Points

A regularly spaced lattice of locations in a plane.

Hard Copy

A printed copy of machine output that is in a visually readable form, e.g., printed reports, listings, documents, summaries, etc.

Hardware

The equipment that makes up a computer system.

Horizontal Component Wind Fields

Gridded fields of horizontal (u, v) wind components (wind direction and wind speed) from formatted binary data within or adjacent to a specified grid area representing the surface level or any specified upper air constant pressure level.

Horizontal Analysis Product

A named data set for the surface level or an upper air constant pressure surface.

Horizontal Weather Depiction

A weather chart consisting of symbolic representations of clouds (types, bases, and tops), precipitation (types and intensity), obstructions to vision (e.g., fog, haze, and smoke), and other significant information.

Icon

Shapes and symbols that display information and represent choices for the operator.

I/J Grid

An array of points referenced to a map of the earth and spaced at uniform intervals on the map. The points are referenced by an integer row number (J) and integer column number (I). The grid is referenced to the latitude/longitude coordinate system by an algorithm that is unique to each grid.

Initialize

Return a program, a system, or a hardware device to an original state.

Input

An adjective referring to a device or collective set of devices used for bringing data into another device.

Interface

1. Refers to instruments, devices, or a concept of a common boundary or the matching of adjacent components, circuits, equipment, or system elements. An interface enables devices to yield and/or acquire information from one device or program to another. Although the terms adapter, handshake, and buffer have similar meaning, interface is more distinctly a connection to complete an operation.
2. A common boundary; for example, a physical connection between two systems or two devices.
3. A common boundary between automatic data-processing systems or parts of a single system. In communications and data systems, it may involve code, format, speed, or other changes as required.

Inversion

A departure from the usual decrease with altitude of the temperature; the layer through which this departure occurs or lowest altitude at which this departure occurs.

Isallobar

A line of equal change in atmospheric pressure during a specified time interval; an isopleth of barometric tendency.

Isobar

A line of equal pressure on a given surface (level surface, vertical cross-section, etc.).

Isopleth Field

A representation of the spatial distribution of lines of equal or constant value of a given quantity over a specific region, e.g., pressure field, temperature field.

Isopleth

A line of equal or constant value of a given parameter, with respect to space or time.

Isotherm

A line of equal temperature.

Isothermal Layer

Atmospheric layer throughout which there is no change of temperature with height.

Keyboard

A device for the encoding of data by key depression, which causes the generation of the selected code element.

Keypad

A small keyboard or section of a keyboard containing a smaller number of keys.

K-Index

One of the stability indices which determine the potential for thunderstorm development.

Label

1. A set of symbols used to identify or describe an item, record, message, or file.
2. A code name that classifies or identifies a name, term, phrase, or document.

Latitude

Northern Hemispheric locations are designated by degrees N increasing northward from the equator or by positive values (without the N) increasing northward from the equator. Southern Hemispheric latitudes are designated by degrees S increasing southward from the equator or by negative values (without the S) increasing southward from the equator. For example, the South Pole is at 90 degrees S or -90 degrees.

Level of Free Convection

The level at which a parcel of air lifted dry adiabatically until saturated and wet adiabatically thereafter first becomes warmer than its surroundings in a conditionally unstable atmosphere.

Lifting Condensation Level

The level at which a parcel of moist air lifted dry adiabatically becomes saturated.

Lifted Index

A measure of atmospheric stability used to forecast convective activity.

Longitude

Eastern Hemispheric locations are indicated by degrees E increasing eastward or by positive values between 0 degrees (Greenwich Meridian) and 180 degrees (without the E) increasing eastward. Western Hemispheric locations are indicated by degrees W increasing westward, negative values between -180 degrees and 0 degrees (without the W) increasing eastward, or by positive values between 180 degrees and 360 degrees (without the W) increasing eastward. For example, 90 degrees E is the same as +90 degrees, and 90 degrees W is the same as -90 degrees and +270 degrees.

Longitude X

The longitude of the meridian perpendicular to the base of the product and extending from the base of the product to the pole. Longitude X may be outside the product boundaries.

Major (Synoptic Scale) Weather Systems

Atmospheric phenomena with typical horizontal scales of 1000-2500 km and lifetimes from one day to a week.

Mandatory Level

See Standard Level.

Menu

An interactive graphic display that lists routines available to the user. The user selects and executes items from the menu with a peripheral device such as a mouse.

Mesoscale Weather Features (Phenomena)

Horizontal dimensions from 10 to 1000 km and a time scale of one hour to one day.

Meteorological Watch Advisory

A locally prepared and disseminated advisory to alert customers of occurring or impending weather which is potentially hazardous or destructive, but not severe enough to meet weather warning criteria.

METWATCH

A term used as a verb to describe the act of monitoring a location or area for any significant weather or change in weather.

Military Weather Advisory

An externally generated forecast product describing areas where the atmosphere has the potential to produce tornadoes, various intensities of thunderstorms, heavy precipitation, freezing precipitation, or strong surface winds.

Mixing Ratio

For moist air, ratio of the mass of water vapor to the mass of dry air with which the water vapor is associated.

Nephanalysis

Analysis of a synoptic chart in terms of the type and amount of clouds.

Past Position

Plot on current charts of significant weather features (fronts, pressure systems, etc.) obtained from previous synoptic charts.

Peripherals

Equipment used with the computer for the input and output of data.

Pick

A process whereby the operator uses a graphics interaction device to select a displayed graphics primitive, usually by placing a cursor over the selective primitive. The name of the primitive nearest the cursor position is determined by the graphic applications program.

Pilot Balloon

Free balloon used only for the visual measurement of wind direction and speed above the surface based on azimuth and elevation angle and a known rate of ascent of the balloon.

PI Set

Projection indicator that defines fixed geographical regions and scales.

Pixel

The smallest segment of a raster line which can be controlled by the display system.

Plot Field

A symbolic representation of weather conditions at individual reporting stations within a specified map area.

Potential Temperature

Temperature a volume of dry air would have when brought adiabatically from its initial state to the standard pressure of 1000 Mb.

Pressure Altitude

The altitude, in the standard atmosphere, at which a given pressure will be observed.

Pressure Pattern

Spatial representation of the distribution of atmospheric pressure, with its cyclones, anticyclones, troughs and ridges.

Product

Named data set. Externally generated products are characterized by an externally provided product identifier. Locally generated products are characterized by a system or operator generated product identifier.

Product Category

A logical grouping of products used by the operator to specify a subset of AMIS products. Typically used to narrow the group of products to be considered for retrieval or to specify a category for automatic purging or generating a product list summary.

Profile (Temperature or Dewpoint Temperature)

On a Skew-T, Log-P diagram, a connected series of line segments joining the coordinates of successive pairs of pressure and temperature (or dewpoint temperature) observations.

Projection Indicator Set Code (PI Set)

A code that defines the background geographic projection on which the transmitted product is valid. The PI set provides the means by which products can be registered to geography.

Prompt

A text display on the screen that tells the operator to input data or make a choice.

Rawinsonde

Instrument carried through the atmosphere by a gas filled balloon equipped with devices for measuring meteorological elements (pressure, temperature, humidity and wind etc.) and provided with a radio transmitter for sending the data.

Relative Humidity

The ratio (in percent) of the amount of water vapor in a given volume of air to the amount that volume would hold if the air were saturated.

Ridge

An area of relatively high atmospheric pressure usually associated with and most clearly identified as an area of maximum anticyclonic curvature of wind flow.

Roam

The translation or transformation of a window or other specified area of the displayed view plane from one coordinate location both horizontally and vertically to another coordinate location.

Rotation

The angular displacement of an image through the display coordinate space of refresh memory without altering the relative distance between the points that constitute the image.

Saturated Air

Air that is holding the maximum amount of moisture it can hold at a given temperature and pressure. (Relative humidity equals 100 percent and temperature is equal to the dewpoint temperature.)

Saturation Mixing Ratio

The mixing ratio a sample of air would have if saturated.

Saturation Vapor Pressure

The partial pressure that water vapor would contribute to the total atmospheric pressure if the air were saturated.

Scaling

The proportional displacement of picture and display coordinates by a fixed amount (the offset or scale factor). The spatial relationship of all points remains constant, so no distortion occurs.

Screen Coordinate

An X-Y intersection on the graphic display screen. This intersection may or may not relate to the point position in refresh memory.

Sea-Level Pressure

The atmospheric pressure at mean sea-level, either directly measured or, most commonly, empirically determined from the station pressure.

Severe Weather

Any severe local storm (e.g., intense thunderstorm) producing hail, tornadoes, or winds greater than 50 knots.

Showalter Index

A measure of the local static stability of the atmosphere, expressed as a numerical index (see 50.3.8.1).

SIGMET Information

Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified enroute weather phenomena that may affect the safety of aircraft operations.

Significant Levels

Pressure levels at which radiosonde data are reported when the change in parameter value with height from one level to another is sufficiently different from the change in values between the two levels below to result in a change in the slope between levels.

Skew-T/Log-P

Thermodynamic diagram used to analyze point source rawinsonde data.

Skew-T, Log-P Diagram

A thermodynamic diagram which provides information on atmospheric stability, freezing levels, cloud bases and heights, thermal inversions and maximum temperature potentials.

Small (Micro) Scale

A space scale which is determined by typical size of 10 km or less. Examples of weather phenomena of this scale are wind turbulence, clouds and tornadoes.

Software

Computer programs used to direct the operations of a computer system.

Space Cross-Section

Graphic representation of vertical structure of the atmosphere, along a horizontal line or path, and extending from the earth to a given altitude at a given time.

Squall Lines

Any nonfrontal line or narrow band of active thunderstorms.

Stability Indices

An indication of the local static stability of a layer of air.

Standard Atmosphere

Reference atmosphere chosen to represent the conventional vertical distribution of atmospheric parameters.

Standard Level

A pressure surface or height above sea level at which air properties are required to be measured and reported by rawinsonde stations. (Also referred to as Mandatory Level.) Standard or mandatory levels are: 1000 mb, 925 mb, 850 mb, 700 mb, 500 mb, 400 mb, 300 mb, 250 mb, 200 mb, 150 mb, 100 mb, 50 mb, 30 mb and 10 mb.

Standard Isobaric Surface

An isobaric surface used on a worldwide basis for representing and analyzing the conditions in the atmosphere.

Standard Plot Model

Symbolic representation of weather parameters positioned around a reporting station. Standard plot model is the default positional relationships and parameters set and maintained by the System Manager.

Station Pressure

The atmospheric pressure computed for the elevation of the station.

Streamline

A continuous line tangent to the wind in an instantaneous wind flow pattern.

Streamline Field

A representation of the spatial distribution of continuous lines tangent to the wind in an instantaneous wind flow pattern over a specific region.

String

A contiguous set of characters, numbers, or combinations thereof. Strings are often set off by a pair of delimiters that indicate origin and terminus.

Surface Analysis

An analyzed chart of surface weather parameters. It shows the distribution of sea-level pressure (therefore, the positions of highs, lows, ridges, and troughs), the location and type of fronts and air masses, and other weather features. Often added to this are symbols of occurring weather phenomena (also referred to as a surface chart or a weather map).

Surface Plot

Graphics display of surface weather developed from UGDF or locally generated information.

Synoptic Observation

Meteorological observation made at regular intervals at numerous stations to obtain a general representation of the state of the atmosphere at the given time.

Synoptic Scale

Scale of the migratory high and low pressure systems of the lower troposphere, with wavelengths of 1000 to 2500 km. (See Major Weather Systems.)

Synchronous

Digital circuits using a common timing source (clock), all operations will occur in synchrony with this clock (compare with Asynchronous).

Temperature Inversion

An increase in temperature with altitude; the layer through which this increase occurs or lowest altitude at which this increase starts.

Temperature Lapse Rate

Rate of decrease of temperature with increasing height; usually an average rate over a distance, for example, 9.8 degrees C/km is considered the dry adiabatic temperature lapse rate.

Thermodynamic Diagram

Diagram used for the representation of the vertical structure of the atmosphere defined by the three variables; pressure, temperature and moisture.

Thickness

A vertical depth, measured in geometric or geopotential units, of a layer in the atmosphere bounded by two constant pressure surfaces.

Threshold

Selected value of importance for a variable as it relates to particular weather sensitive operations.

Threshold Value

Operator selected value used for comparison and automatic generation of METWATCH alerts.

Time Cross-Section

A diagram in which one coordinate is time and the other is vertical distance that depicts the changes in the vertical structure of the atmosphere with time over a location.

Total Totals

One of the stability indices used to determine the potential for thunderstorm development. It is equal to the Vertical Total Index plus the Cross Total Index.

Tropopause

The boundary between the troposphere (lowest 10 to 20 km of the atmosphere) and stratosphere, usually characterized by an abrupt change of lapse rate.

Trough

An elongated area of relatively low atmospheric pressure (the opposite of a ridge).

TR

A function used to retrieve the latest surface observations, radar reports, and TAFs.

TW

A function used to retrieve the latest surface observation and TAF.

Uniform Gridded Data Fields (UGDF)

A field of data in which independent data elements or element sets are associated with individual points on a uniformly spaced grid system.

Universal Time Coordinates

Synonymous with Greenwich Mean Time (GMT)

Upper Air Chart

A synoptic chart of meteorological conditions at a constant pressure or constant height above the ground.

Upper Air/Level

In synoptic meteorology and in weather observing, that portion of the atmosphere which is above the lower troposphere. No distinct lower limit is set but the term is generally applied to the levels beginning at approximately 5000 feet or 850 mb.

Upper Air Plot

Graphics display of upper air weather developed from FBD and UGDF information.

Valid Time

The time at which data used to generate a locally or externally generated vector graphic or UGDF product was observed. In addition, the time(s) at which an externally generated vector graphic or UGDF forecast product is valid.

Vector Graphics Data

Vector graphic data consists of data describing weather maps, charts, and figures. These data may be vectors, graphic symbols, environmental symbols, or alphanumeric labels, as required by the product originator to fully define a product.

Vertical Consistency

Agreement of vertical observations of the atmosphere with regard to the structure and physical principles of the atmosphere.

Vertical Cross Section

Contours and data plots from distance or time over logarithms of pressure and data plots.

Vertical Totals

One of the stability indices which determine the potential for thunderstorm development.

Viewing Operation

An operation that maps positions in world (users) coordinates to positions in normalized display device coordinates. It also specifies the portion of the world coordinate space that is to be displayed.

Virtual Temperature

The temperature of dry air having the pressure and density of a given sample of moist air.

Vorticity

A vector measure of local rotation in a fluid flow, defined mathematically as the curl of the velocity vector.

Wind Shear

The difference between wind vectors or any of its components at locations in a region (horizontal shear) or the difference in wind vectors with elevation over a point (vertical shear).

Wind Speed

Ratio of the distance covered by the air to the time taken to cover it. The “instantaneous speed” corresponds to the case of an infinitely small time interval. The “mean speed” corresponds to the case of a finite time interval.

Wind Vector

Vector drawn in the sense and direction of the wind and of length proportional to the speed of the wind.

Zoom

A function that produces a full-screen display of an operator-selected portion of a graphic product. The zoomed display is determined by a zoom reference coordinate (e.g., the lower left-hand corner of the area to be zoomed) and a zoom ratio (e.g., 1:16) that directly scales both the horizontal and vertical dimensions of the graphic product. A zoom ratio of 1:1 corresponds to a full-screen (non-zoomed) display of the full extent of the graphic product. A zoom ratio of 1:16 corresponds to a display of 1/256th of the full extent of the graphic product and an increase in the length of displayed lines by a factor of 16 with respect to the length of the displayed lines at the 1:1 ratio.